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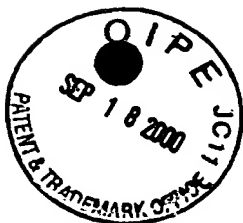
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SEQUENCE LISTING

<110> De Leys, Robert J.  
Zheng, Jian

<120> PEPTIDES FOR THE DETECTION OF HIV-1 GROUP O

<130> CDS-222

<140> 09/605,573

<141> 1999-06-28

<160> 70

<170> PatentIn Ver. 2.0

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Leu Trp Gly Cys Lys Gly Lys Leu Val Cys Tyr Thr Ser Val Lys Trp  
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Asn

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Arg Leu Gln Ala Leu Glu Thr Leu Ile Gln Asn Gln Gln Arg Leu Asn  
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Asn

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Leu Trp Gly Cys Lys Asn Arg Leu Ile Cys Tyr Thr Ser Val Lys Trp  
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Asn

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Asn

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Asn

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1 5 10 15  
Ser Trp Gly Cys Lys Gly Arg Leu Val Cys Tyr Thr Ser Val Glu Trp  
20 25 30

Asn

<210> 7

<211> 33

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Asn

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Asn

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Arg Leu Leu Ala Leu Glu Thr Leu Met Gln Asn Gln Gln Leu Leu Asn  
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Asn

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<213> Human immunodeficiency virus type 1

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<210> 11

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<213> Human immunodeficiency virus type 1

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20 25 30  
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Arg Leu Leu Ala Leu Glu Thr Leu Met Gln Asn Gln Gln Leu Leu Asn  
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Asn

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Arg Leu Gln Ala Leu Glu Thr Leu Ile Gln Asn Gln Gln Arg Leu Asp

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Asn

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<213> Human immunodeficiency virus type 1

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Asn

<210> 15

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Asn

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Ser Trp Gly Cys Gln Gly Lys Leu Val Cys Tyr Thr Ser Val Ile Trp  
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Asn

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Arg Leu Gln Ala Leu Glu Thr Leu Met Gln Asn Gln Gln Leu Leu Asn  
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Leu Trp Gly Cys Lys Gly Lys Ser Ile Cys Tyr Thr Ser Val Lys Trp  
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Asn

<210> 18

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<212> PRT

<213> Human immunodeficiency virus type 1

<400> 18

Arg Leu Leu Ala Leu Glu Thr Phe Val Gln Asn Gln Gln Leu Leu Asn  
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Leu Trp Gly Cys Lys Gly Arg Ile Val Cys Tyr Thr Ser Val Lys Trp  
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Asn

<210> 19

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<213> Human immunodeficiency virus type 1

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Arg Leu Leu Ala Leu Glu Thr Leu Met Gln Asn Gln Gln Leu Leu Asn

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Leu Trp Gly Cys Arg Gly Lys Ala Ile Cys Tyr Thr Ser Val Gln Trp  
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Asn

<210> 20

<211> 33

<212> PRT

<213> Human immunodeficiency virus type 1

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Arg Leu Gln Ala Leu Glu Thr Leu Ile Gln Asn Gln Gln Leu Leu Ser

1 5 10 15

Leu Trp Gly Cys Lys Gly Arg Leu Val Cys Tyr Thr Ser Val Lys Trp  
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His

<210> 21

<211> 33

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 21

Arg Leu Leu Ala Leu Glu Thr Leu Ile Gln Asn Gln Gln Leu Leu Asn

1 5 10 15

Leu Trp Gly Cys Lys Gly Arg Leu Leu Cys Tyr Thr Ser Val Lys Trp  
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Asn

<210> 22

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<212> PRT

<213> Human immunodeficiency virus type 1

<400> 22

Arg Leu Leu Ala Leu Glu Thr Phe Ile Gln Asn Gln Gln Leu Leu Asn  
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Leu Trp Gly Cys Lys Gly Lys Leu Ile Cys Tyr Thr Ser Val Glu Trp  
20 25 30

Asn

<210> 23

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<213> Human immunodeficiency virus type 1

<400> 23

Arg Leu Gln Ala Leu Glu Thr Leu Met Gln Asn Gln Gln Arg Leu Asp  
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Leu Trp Gly Cys Lys Gly Arg Leu Ile Cys Tyr Thr Ser Val Lys Trp  
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Asn

<210> 24

<211> 33

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 24

Arg Leu Gln Ala Leu Glu Pro Leu Ile Gln Asn Gln Gln Arg Leu Ser  
1 5 10 15

Leu Trp Gly Cys Lys Gly Arg Ile Ile Cys Tyr Thr Ser Ala Lys Trp  
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Asn

<210> 25

<211> 33

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 25

Arg Leu Leu Ala Leu Glu Thr Leu Ile Gln Asn Gln Gln Leu Leu Asn  
1 5 10 15  
Ser Trp Gly Cys Lys Gly Arg Leu Val Cys Tyr Thr Ser Val Lys Trp  
20 25 30

Asn

<210> 26

<211> 33

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 26

Arg Leu Val Ala Leu Glu Thr Leu Val Gln Asn Gln Gln Leu Leu Asn  
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Leu Trp Gly Cys Lys Gly Arg Leu Thr Cys Tyr Thr Ser Val Lys Trp  
20 25 30

Asn

<210> 27

<211> 33

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 27

Arg Leu Leu Ala Leu Glu Thr Leu Ile Gln Asn Gln Gln Leu Leu Asn  
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Leu Trp Gly Cys Lys Gly Arg Leu Leu Cys Tyr Thr Ser Val Lys Trp  
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Asn

<210> 28

<211> 33

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 28

Arg Leu Leu Ala Leu Glu Thr Phe Ile Gln Asn Gln Gln Leu Leu Asn  
1 5 10 15  
Leu Trp Gly Cys Lys Gly Gln Leu Val Cys Tyr Thr Ser Val Lys Trp  
20 25 30

Asn

<210> 29

<211> 33

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 29

Arg Leu Leu Ala Leu Glu Thr Phe Ile Gln Asn Gln Gln Leu Leu Asn  
1 5 10 15  
Leu Trp Gly Cys Lys Gly Arg Leu Ile Cys Tyr Thr Ser Val Lys Trp  
20 25 30

Asn

<210> 30

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<212> PRT

<213> Human immunodeficiency virus type 1

<400> 30

Arg Leu Leu Ala Leu Glu Thr Leu Ile Gln Asn Gln Gln Leu Leu Asn  
1 5 10 15  
Ser Trp Gly Cys Lys Gly Arg Ile Val Cys Tyr Thr Ser Val Lys Trp  
20 25 30

Asn

<210> 31

<211> 33

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 31

Glu Arg Glu Ile Asp Asn Tyr Thr Ser Leu Ile Tyr Ser Leu Leu Glu  
1 5 10 15  
Lys Ser Gln Thr Gln Gln Glu Lys Asn Glu Gln Glu Leu Leu Glu Leu  
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Asp

<210> 32

<211> 33

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 32

Asp Arg Gln Ile Ser Asn Ile Ser Ser Thr Ile Tyr Glu Glu Ile Gln  
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Lys Ala Gln Val Gln Gln Glu Gln Asn Glu Lys Lys Leu Leu Glu Leu  
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Asp

<210> 33

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<212> PRT

<213> Human immunodeficiency virus type 1

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Asp Gln His Ile Asn Asn Val Ser Ser Ile Ile Tyr Asp Glu Ile Gln  
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Ala Ala Gln Asp Gln Gln Glu Lys Asn Val Lys Ala Leu Leu Glu Leu  
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Asp

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<213> Human immunodeficiency virus type 1

<400> 34

Asp Gln Gln Ile Asn Asn Val Ser Ser Phe Ile Tyr Glu Lys Ile Gln  
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Asp

<210> 35

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<213> Human immunodeficiency virus type 1

<400> 35

Asp Gln Gln Ile Asp Asn Ile Ser Ser Thr Ile Tyr Asp Glu Ile Gln  
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Asp

<210> 36

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<400> 36

Asp Gln Gln Ile Asn Asn Ile Ser Ser Ile Ile Tyr Gly Glu Ile Gln  
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Lys Ala Gln Val Gln Gln Glu Glu Asn Glu Lys Lys Leu Leu Glu Leu  
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Asp

<210> 37

<211> 33

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 37

Asp Gln Gln Ile Asn Asn Ile Ser Ser Ile Ile Tyr Gly Glu Ile Gln  
1 5 10 15

Lys Ala Gln Val Gln Gln Glu His Asn Glu Lys Lys Leu Leu Glu Leu  
20 25 30

Asp

<210> 38

<211> 33

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 38

Asp Gln Gln Val Asn Asn Val Ser Ser Phe Ile Tyr Asp Lys Ile Gln  
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Glu Ala Gln Glu Gln Gln Glu Glu Asn Glu Arg Ala Leu Leu Glu Leu  
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Asp

<210> 39

<211> 33

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 39

Asp Gln Gln Ile Ser Asn Val Ser Ser Ile Ile Tyr Glu Glu Ile Gln  
1 5 10 15

Lys Ala Gln Glu Gln Gln Glu Gln Asn Glu Lys Lys Leu Leu Glu Leu  
20 25 30

Asp

<210> 40

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<212> PRT

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<400> 40

Asp Gln Gln Ile Ala Asn Val Ser Ser Phe Ile Tyr Asp Gln Ile Gln  
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Glu Ala Gln Glu Arg Gln Asp Lys Asn Glu Lys Thr Leu Leu Glu Leu  
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Asp

<210> 41

<211> 33

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 41

Asp Gln Gln Ile Asp Asn Val Ser Ser Thr Ile Tyr Glu Glu Ile Leu  
1 5 10 15

Lys Ala Gln Ile Gln Gln Glu Gln Asn Glu Lys Lys Leu Leu Glu Leu  
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Asp

<210> 42

<211> 33

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 42

Asp Arg Glu Ile Asp Asn Ile Ser Ser Tyr Ile Tyr Glu Lys Ile Gln  
1 5 10 15

Glu Ala Gln Asp Gln Gln Glu Asn Asn Glu Arg Glu Leu Leu Glu Leu  
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Asp

<210> 43

<211> 33

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 43

Asp Lys Gln Ile Ser Asn Ile Ser Ser Ile Ile Tyr Asp Glu Ile Gln  
1 5 10 15

Thr Ala Gln Asp Gln Gln Glu Arg Asn Val Lys Ala Leu Leu Glu Leu  
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Asp

<210> 44

<211> 33

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 44

Asp Gln Gln Val Asn Asn Val Ser Ser Ile Ile Tyr Glu Glu Ile Gln  
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Arg Ala Gln Val Gln Gln Glu Gln Asn Glu Lys Arg Leu Leu Glu Leu  
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Asp

<210> 45

<211> 33

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 45

Asp Gln Gln Ile Asp Asn Val Ser Ser Ile Ile Tyr Glu Glu Ile Gln  
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Lys Ala Gln Gly Gln Gln Glu Gln Asn Glu Lys Lys Leu Leu Glu Leu  
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Asp

<210> 46

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<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: HIV Consensus  
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tgg 63

<210> 49

<211> 58

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<213> Artificial Sequence

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<223> Description of Artificial Sequence: HIV Consensus  
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agcaagTtaa caatgtttct tctattattt atgataagat tttggaagcc caggatca 58

<210> 50

<211> 62

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: HIV Consensus  
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ccagatatcc tccagagact tattagacca agaagcatgc caacgggcac tagtataaca 60  
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<210> 51

<211> 62

<212> DNA

<213> Artificial Sequence

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<400> 51

acattgttaa cttgctgggc ccattgcac caggtcatgt tatcccagat atcctccaga 60  
ga 62

<210> 52

<211> 62

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: HIV Consensus  
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<400> 52

ccagatatcc tccagagact tattagacca agaagcatgc caacgggcac tagtataaca 60  
aa 62

<210> 53

<211> 62

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: HIV Consensus  
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ga 62

<210> 54

<211> 25

<212> DNA

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<223> Description of Artificial Sequence: HIV Consensus Sequence

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accggaattc cgatttcctt gggtt 25

<210> 55

<211> 24

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: HIV Consensus Sequence

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<210> 56

<211> 26

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: HIV Consensus Sequence

<400> 56

gccactgcag ccagactatt attgtc 26

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<211> 439

<212> PRT

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<223> Description of Artificial Sequence:HIV Consensus Sequence

<400> 57

Met Arg Gly Ser Gly Ile Met Val Arg Pro Leu Asn Ser Ile Val Ala  
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Val Ser Gln Asn Met Gly Ile Gly Lys Asn Gly Asp Leu Pro Trp Pro  
20 25 30

Pro Leu Arg Asn Glu Phe Lys Tyr Phe Gln Arg Met Thr Thr Thr Ser  
35 40 45

Ser	Val	Glu	Gly	Lys	Gln	Asn	Leu	Val	Ile	Met	Gly	Arg	Lys	Thr	Trp
50						55					60				
Phe	Ser	Ile	Pro	Glu	Lys	Asn	Arg	Pro	Leu	Lys	Asp	Arg	Ile	Asn	Ile
65					70					75					80
Val	Leu	Ser	Arg	Glu	Leu	Lys	Glu	Pro	Pro	Arg	Gly	Ala	His	Phe	Leu
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Ala	Lys	Ser	Leu	Asp	Asp	Ala	Leu	Arg	Leu	Ile	Glu	Gln	Pro	Glu	Leu
			100					105					110		
Ala	Ser	Lys	Val	Asp	Met	Val	Trp	Ile	Val	Gly	Gly	Ser	Ser	Val	Tyr
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130						135					140				
Ile	Met	Gln	Glu	Phe	Glu	Ser	Asp	Thr	Phe	Phe	Pro	Glu	Ile	Asp	Leu
145					150					155					160
Gly	Lys	Tyr	Lys	Leu	Leu	Pro	Glu	Tyr	Pro	Gly	Val	Leu	Ser	Glu	Val
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Gln	Glu	Glu	Lys	Gly	Ile	Lys	Tyr	Lys	Phe	Glu	Val	Tyr	Glu	Lys	Lys
			180					185					190		
Gly	Ser	Arg	Ser	Ala	Arg	Leu	Leu	Leu	Ser	Gly	Ile	Val	Gln	Gln	Gln
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Thr	Ala	Trp	Gly	Ile	Lys	Gln	Leu	Arg	Ala	Arg	Leu	Gln	Ala	Leu	Glu
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Thr	Leu	Met	Gln	Asn	Gln	Gln	Arg	Leu	Asn	Ser	Trp	Gly	Cys	Lys	Gly
				245					250					255	
Arg	Ile	Ile	Cys	Tyr	Thr	Ser	Ala	Arg	Trp	His	Ala	Ser	Trp	Ser	Asn
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Lys	Ser	Leu	Glu	Asp	Ile	Trp	Asp	Asn	Met	Thr	Trp	Met	Gln	Trp	Asp
		275					280					285			
Gln	Gln	Val	Asn	Asn	Val	Ser	Ser	Ile	Ile	Tyr	Asp	Lys	Ile	Leu	Glu
	290					295					300				
Ala	Gln	Asp	Gln	Gln	Glu	Glu	Asn	Val	Arg	Glu	Leu	Leu	Glu	Leu	Asp
305					310					315					320
Lys	Trp	Ala	Ser	Leu	Trp	Asn	Trp	Phe	Asp	Ile	Thr	Asn	Trp	Leu	Trp
				325					330					335	
Tyr	Ile	Lys	Ile	Phe	Ile	Met	Ile	Val	Gly	Gly	Leu	Val	Gly	Leu	Arg
			340					345					350		
Ile	Val	Phe	Ala	Val	Leu	Ser	Ile	Val	Asn	Arg	Val	Arg	Gln	Gly	Tyr
		355					360					365			

Ser Pro Leu Ser Leu Gln Thr Arg Pro Pro Val Pro Arg Gly Pro Asp  
370 375 380  
Arg Pro Glu Gly Ile Glu Glu Glu Gly Gly Glu Arg Asp Arg Asp Thr  
385 390 395 400  
Ser Gly Arg Leu Val His Gly Phe Leu Ala Ile Ile Trp Val Asp Leu  
405 410 415  
Gly Pro Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn Ser Ala Val  
420 425 430  
Asp His His His His His His  
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<210> 58  
<211> 368  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:HIV Consensus  
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Val Ser Gln Asn Met Gly Ile Gly Lys Asn Gly Asp Leu Pro Trp Pro  
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Pro Leu Arg Asn Glu Phe Lys Tyr Phe Gln Arg Met Thr Thr Thr Ser  
35 40 45  
Ser Val Glu Gly Lys Gln Asn Leu Val Ile Met Gly Arg Lys Thr Trp  
50 55 60  
Phe Ser Ile Pro Glu Lys Asn Arg Pro Leu Lys Asp Arg Ile Asn Ile  
65 70 75 80  
Val Leu Ser Arg Glu Leu Lys Glu Pro Pro Arg Gly Ala His Phe Leu  
85 90 95  
Ala Lys Ser Leu Asp Asp Ala Leu Arg Leu Ile Glu Gln Pro Glu Leu  
100 105 110  
Ala Ser Lys Val Asp Met Val Trp Ile Val Gly Gly Ser Ser Val Tyr  
115 120 125  
Gln Glu Ala Met Asn Gln Pro Gly His Leu Arg Leu Phe Val Thr Arg  
130 135 140  
Ile Met Gln Glu Phe Glu Ser Asp Thr Phe Phe Pro Glu Ile Asp Leu  
145 150 155 160  
Gly Lys Tyr Lys Leu Leu Pro Glu Tyr Pro Gly Val Leu Ser Glu Val  
165 170 175

Gln Glu Glu Lys Gly Ile Lys Tyr Lys Phe Glu Val Tyr Glu Lys Lys  
180 185 190

Gly Ser Arg Ser Ala Arg Leu Leu Leu Ser Gly Ile Val Gln Gln Gln  
195 200 205

Asn Asn Leu Leu Arg Ala Ile Glu Ala Gln Gln His Met Leu Gln Leu  
210 215 220

Thr Ala Trp Gly Ile Lys Gln Leu Arg Ala Arg Leu Gln Ala Leu Glu  
225 230 235 240

Thr Leu Met Gln Asn Gln Gln Arg Leu Asn Ser Trp Gly Cys Lys Gly  
245 250 255

Arg Ile Ile Cys Tyr Thr Ser Ala Arg Trp His Ala Ser Trp Ser Asn  
260 265 270

Lys Ser Leu Glu Asp Ile Trp Asp Asn Met Thr Trp Met Gln Trp Asp  
275 280 285

Gln Gln Val Asn Asn Val Ser Ser Ile Ile Tyr Asp Lys Ile Leu Glu  
290 295 300

Ala Gln Asp Gln Gln Glu Glu Asn Val Arg Glu Leu Leu Glu Leu Asp  
305 310 315 320

Lys Trp Ala Ser Leu Trp Asn Trp Phe Asp Ile Thr Asn Trp Leu Trp  
325 330 335

Tyr Ile Lys Ile Phe Ile Met Ile Val Gly Pro Glu Gln Lys Leu Ile  
340 345 350

Ser Glu Glu Asp Leu Asn Ser Ala Val Asp His His His His His His  
355 360 365

<210> 59

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:HIV Consensus  
Sequence

<400> 59

Asn Gln Gln Arg Leu Asn Ser Trp Gly Cys Lys Gly Arg Ile Ile Cys  
1 5 10 15

Tyr Thr Ser Ala Arg Trp His  
20

<210> 60

<211> 23  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> Xaa is any amino acid  
  
<222> 1

<223> Description of Artificial Sequence:HIV Consensus  
Sequence

<400> 60

Xaa	Gln	Gln	Arg	Leu	Asn	Ser	Trp	Gly	Cys	Lys	Gly	Arg	Ile	Ile	Cys
1				5					10					15	
Tyr	Thr	Ser	Ala	Arg	Trp	His									
				20											

<210> 61  
<211> 23  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:HIV Consensus  
Sequence

<400> 61  
Glu Gln Gln Arg Leu Asn Ser Trp Gly Cys Lys Gly Arg Ile Ile Cys  
1 5 10 15  
Tyr Thr Ser Ala Arg Trp His  
20

<210> 62  
<211> 28  
<212> PRT  
<213> Artificial Sequence

<220>  
<221> Xaa is any amino acid  
  
<222> 6

<223> Description of Artificial Sequence:HIV Consensus  
Sequence

<400> 62

Glu	Thr	Leu	Met	Gln	Xaa	Gln	Gln	Arg	Leu	Asn	Ser	Trp	Gly	Cys	Lys
1				5					10					15	

Gly Arg Ile Ile Cys Tyr Thr Ser Ala Arg Trp His  
20 25

<210> 63

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<221> Xaa is any amino acid

<222> 8

<223> Description of Artificial Sequence:HIV Consensus  
Sequence

<400> 63

Gly Arg Glu Thr Leu Met Gln Xaa Gln Gln Arg Leu Asn Ser Trp Gly  
1 5 10 15  
Cys Lys Gly Arg Ile Ile Cys Tyr Thr Ser Ala Arg Trp His  
20 25 30

<210> 64

<211> 35

<212> PRT

<213> Artificial Sequence

<220>

<221> Xaa is any amino acid

<222> 13

<223> Description of Artificial Sequence:HIV Consensus  
Sequence

<400> 64

Arg Ala Arg Leu Gln Ala Leu Glu Thr Leu Met Gln Xaa Gln Gln Arg  
1 5 10 15  
Leu Asn Ser Trp Gly Cys Lys Gly Arg Ile Ile Cys Tyr Thr Ser Ala  
20 25 30  
Arg Trp His  
35

<210> 65

<211> 33

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:HIV Consensus

Sequence

<400> 65

Asp Gln Gln Val Asn Asn Val Ser Ser Ile Ile Tyr Asp Lys Ile Leu  
1 5 10 15

Glu Ala Gln Asp Gln Gln Glu Glu Asn Val Arg Glu Leu Leu Glu Leu  
20 25 30

Asp

<210> 66

<211> 220

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:HIV Consensus  
Sequence

<400> 66

Ala Arg Leu Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu Leu  
1 5 10 15

Arg Ala Ile Glu Ala Gln Gln His Met Leu Gln Leu Thr Ala Trp Gly  
20 25 30

Ile Lys Gln Leu Arg Ala Arg Leu Gln Ala Leu Glu Thr Leu Met Gln  
35 40 45

Asn Gln Gln Arg Leu Asn Ser Trp Gly Cys Lys Gly Arg Ile Ile Cys  
50 55 60

Tyr Thr Ser Ala Arg Trp His Ala Ser Trp Ser Asn Lys Ser Leu Glu  
65 70 75 80

Asp Ile Trp Asp Asn Met Thr Trp Met Gln Trp Asp Gln Gln Val Asn  
85 90 95

Asn Val Ser Ser Ile Ile Tyr Asp Lys Ile Leu Glu Ala Gln Asp Gln  
100 105 110

Gln Glu Glu Asn Val Arg Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser  
115 120 125

Leu Trp Asn Trp Phe Asp Ile Thr Asn Trp Leu Trp Tyr Ile Lys Ile  
130 135 140

Phe Ile Met Ile Val Gly Gly Leu Val Gly Leu Arg Ile Val Phe Ala  
145 150 155 160

Val Leu Ser Ile Val Asn Arg Val Arg Gln Gly Tyr Ser Pro Leu Ser  
165 170 175

Leu Gln Thr Arg Pro Pro Val Pro Arg Gly Pro Asp Arg Pro Glu Gly  
180 185 190

Ile Glu Glu Glu Gly Gly Glu Arg Asp Arg Asp Thr Ser Gly Arg Leu  
195 200 205

Val His Gly Phe Leu Ala Ile Ile Trp Val Asp Leu  
210 215 220

<210> 67

<211> 149

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:HIV Consensus  
Sequence

<400> 67

Ala Arg Leu Leu Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu Leu  
1 5 10 15

Arg Ala Ile Glu Ala Gln Gln His Met Leu Gln Leu Thr Ala Trp Gly  
20 25 30

Ile Lys Gln Leu Arg Ala Arg Leu Gln Ala Leu Glu Thr Leu Met Gln  
35 40 45

Asn Gln Gln Arg Leu Asn Ser Trp Gly Cys Lys Gly Arg Ile Ile Cys  
50 55 60

Tyr Thr Ser Ala Arg Trp His Ala Ser Trp Ser Asn Lys Ser Leu Glu  
65 70 75 80

Asp Ile Trp Asp Asn Met Thr Trp Met Gln Trp Asp Gln Gln Val Asn  
85 90 95

Asn Val Ser Ser Ile Ile Tyr Asp Lys Ile Leu Glu Ala Gln Asp Gln  
100 105 110

Gln Glu Glu Asn Val Arg Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser  
115 120 125

Leu Trp Asn Trp Phe Asp Ile Thr Asn Trp Leu Trp Tyr Ile Lys Ile  
130 135 140

Phe Ile Met Ile Val  
145

<210> 68

<211> 23

<212> PRT

<213> Human immunodeficiency virus type 1

<400> 68

Asn Gln Gln Leu Leu Ser Leu Trp Gly Cys Lys Gly Lys Leu Val Cys  
1 5 10 15

Tyr Thr Ser Val Lys Trp Asn  
20

<210> 69  
<211> 30  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: HIV Consensus  
Sequence

<400> 69  
Gly Arg Glu Thr Leu Met Gln Asp Gln Gln Arg Leu Asn Ser Trp Gly  
1 5 10 15  
Cys Lys Gly Arg Ile Ile Cys Tyr Thr Ser Ala Arg Trp His  
20 25 30

<210> 70  
<211> 160  
<212> PRT  
<213> Human immunodeficiency virus type 1

<400> 70  
Ala Ala Ile Gly Ala Leu Phe Leu Gly Phe Leu Gly Ala Ala Gly Ser  
1 5 10 15  
Thr Met Gly Ala Ala Ser Val Thr Leu Thr Val Gln Ala Arg Leu Leu  
20 25 30  
Leu Ser Gly Ile Val Gln Gln Gln Asn Asn Leu Leu Arg Ala Ile Glu  
35 40 45  
Ala Gln Gln His Met Leu Gln Leu Thr Val Trp Gly Ile Lys Gln Leu  
50 55 60  
Gln Ala Arg Val Leu Ala Val Glu Arg Tyr Leu Lys Asp Gln Gln Leu  
65 70 75 80  
Leu Gly Phe Trp Gly Cys Ser Gly Lys Leu Ile Cys Thr Thr Thr Val  
85 90 95  
Pro Trp Asn Ala Ser Trp Ser Asn Lys Ser Leu Asp Asp Ile Trp Asn  
100 105 110  
Asn Met Thr Trp Met Gln Trp Glu Arg Glu Ile Asp Asn Tyr Thr Ser  
115 120 125  
Leu Ile Tyr Ser Leu Leu Glu Lys Ser Gln Thr Gln Gln Glu Lys Asn  
130 135 140  
Glu Gln Glu Leu Leu Glu Leu Asp Lys Trp Ala Ser Leu Trp Asn Trp  
145 150 155 160